News Savannah River Nuclear Solutions

SAVANNAH RIVER SITE • AIKEN • SC 29808

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SRS Completes Vacuuming of "Cobwebs" found in L Basin

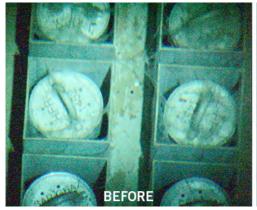
AIKEN, S.C. Aug.11, 2014 – The once mysterious "cobwebs" found in the L Disassembly Basin at the Savannah River Site have been removed, as part of the effort to maintain the highest safety and water quality standards in the facility.

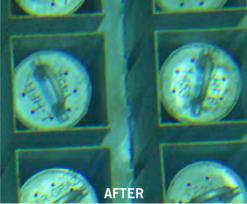
The "cobwebs" were found in 2011 during routine surveillance of the basin, which stores spent nuclear fuel bundles under water. Samples were sent to the Savannah River National Laboratory and the University of South Carolina for testing. Scientists at both facilities determined that the "cobwebs" were made up of a broad variety of bacteria along with a few other types of microbes. The "cobwebs" were then monitored for growth patterns and changes.

Although not found to be harmful, the "cobwebs" were thick in areas and beginning to cover the top of the fuel bundles, hiding the fuel bundle identification numbers that are regularly inspected to ensure proper inventory control.

"The floor of the basin is regularly vacuumed to remove debris," said L Basin Operations Support Engineer Rich Deible. "Vacuuming the "cobwebs" proved to be a new challenge, as we had never vacuumed the tops of fuel racks before." Completing the project ahead of schedule ensured continued safe operations within the facility.

A special kind of vacuum that uses filters much like water filters found in homes was used to remove the web-like material. The filter cartridges will be sampled and characterized to determine the proper disposal path.





Fuel bundles in L Disassembly Basin before (left) and after (right) removal of "cobwebs."

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Underwater storage facilities, called disassembly basins, were located in all five SRS production reactor areas. To avoid the cost of operating multiple facilities, SRS decided in 1998 to consolidate all of SRS's stored used fuel into the much larger, recently refurbished L Basin. By 2003, L Basin was SRS's only fuel receipt and storage facility. L Basin currently stores 30 metric tons of heavy metal in used fuel.

L Basin has concrete walls two and a half to seven feet thick and holds approximately 3.4 million gallons of water with pool depths of 17 to 50 feet. All used fuel assemblies are "cool" enough to be safely stored without an active basin water cooling system. The basin water provides shielding to protect workers from radiation.

Savannah River Nuclear Solutions is a Fluor-led company whose members are Fluor Federal Services, Newport News Nuclear and Honeywell, responsible for the management and operations of the Department of Energy's Savannah River Site, including the Savannah River National Laboratory, located near Aiken, South Carolina.

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